

CALIFORNIA ENERGY COMMISSION
Peak Load Reduction Program
Cool Savings with Cool Roofs Program Summary

Program Description: The “Cool Savings with Cool Roofs” program provided Californians with cash rebates for installing white, heat reflective cool roofs. The Program targets primarily flat or commercial roofs on low-slope nonresidential buildings (e.g. schools, businesses, offices, refrigerated warehouses) and multi-family low-slope apartment buildings. Construction companies building new residential developments can also participate. The Program started in early 2001 and will continue to approximately June 2003.



The benefits of cool roofs are based on simple science: dark materials absorb more heat than light materials. Most traditional dark-colored roofs absorb 70% or more of the solar energy striking them, resulting in peak roof temperatures of 150 to 190°F. By comparison, **reflective cool roofs are 50 to 60° F cooler** on hot days. The resulting reductions in the transfer of heat into the air-conditioned spaces below can **decrease cooling costs up to 20%**.

In addition to reducing energy consumption, cool roofs offer many other benefits, including:

- Decreased roofing maintenance and replacement costs.
- Improved building comfort.
- Reduced impact on surrounding air temperatures (heat island effect).
- Reduced peak electricity demand.
- Reduced waste stream of roofing debris.

Project Results:

As of mid-February, almost 41 million square feet of “Cool Roofs” has been installed in buildings throughout California (scroll down to see map of project locations), with another 20 million square feet expected in the next few months. The installation of these roofs is expected to save a total of **20 megawatts of electricity** during high demand summer afternoons. Employees in these buildings throughout California have universally reported that as soon as the cool roof was installed, they noticed an immediate improvement in inside temperatures and personal comfort levels.

Funding Details:

The Commission provides the rebates under the authorization of two special session bills, Assembly Bill 970 and Senate Bill 5X. The Sacramento Tree Foundation, the San Diego Regional Energy Office, and two municipal utilities – the Los Angeles Department

of Water and Power and the Sacramento Municipal Utility District are administering the funds. To date, over 1,500 applicants have participated in the Program and have received **\$6 million** in rebates.

Lessons Learned:

Companies interested in installing Cool Roof technology should be aware of a few common sense considerations:

- A Cool Roof suffers a deterioration of its reflective abilities if it gets dirty. Therefore, to maximize the value of your investment, owners should establish a regular cleaning and maintenance schedule.
- Reductions in energy use are unique to each building. For example, if you have a highly-sloping roof, taller buildings or trees nearby that shade your roof, or well-insulated attic spaces, then your energy reductions due to the Cool Roof may be less.
- It is important to use a contractor trained in proper installation techniques and choose the correct type of cool roof for your particular building. A list of qualified cool roof contractors and products can be found on-line at http://www.coolroofs.info/p_c/index.html.

Additional Opportunities for Financial Assistance on Cool Roofs: Although funds are limited and the Energy Commission's program is ending soon, California's investor-owned utilities are planning to incorporate a similar rebate in their portfolio of energy conservation programs. If you are interested in installing a Cool Roof, watch for these rebate programs, as California's mandatory building codes for new construction (known as "Title 24") are expected to require cool roof technology by 2005.

For on-going updates on cool roof technologies, please contact the "Cool Roof Rating Council" at <http://coolroofs.org>.

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CALIFORNIA ENERGY COMMISSION PEAK LOAD REDUCTION PROGRAM FUNDING DISTRIBUTION:

Cool Roof Program



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Legend



Cool Roof Program



CA County